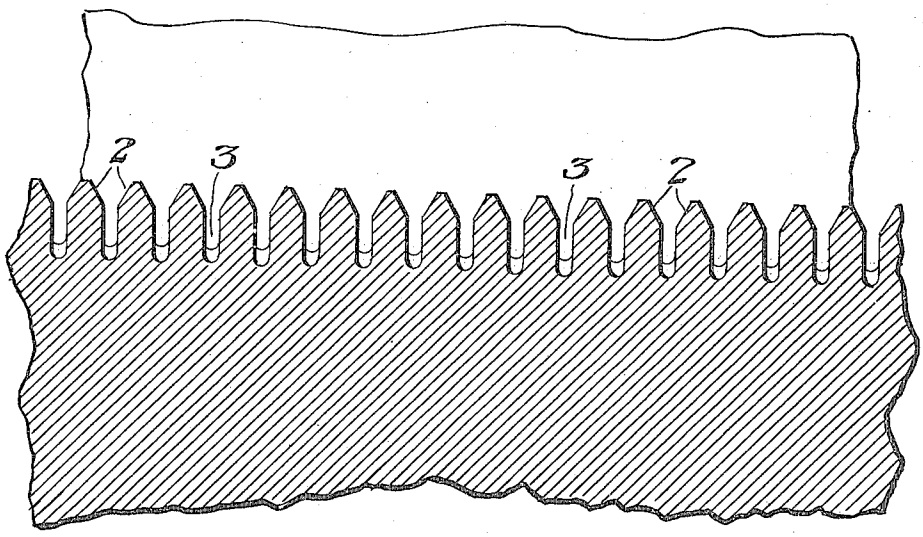
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GROOVING FOR ROLLERS OF SUGAR CANE MILLS.

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1,145,844.

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Witnesses.

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JAMES OGG, OF PAHALA, TERRITORY OF HAWAII.

GROOVING FOR ROLLERS OF SUGAR-CANE MILLS.

1,145,844. Specification of Letters Patent. Patented July 6, 1915.

Application filed November 4, 1914. Serial No. 870,204.

To all whom it may concern:

Be it known that I, JAMES OGG, a subject of the King of Great Britain, residing at Pahala, in the county and Territory of Hawaii, have invented certain new and useful Improvements in Groovings for Rollers of Sugar-Cane Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in sugar-cane mills and particularly to the grooving of the rollers of such mills. Its object is to provide a grooving for the rollers of sugar-cane mills which will enable them to take the feed better than heretofore, thereby increasing the amount of cane which can be crushed by the mill, and also to increase the efficiency of the mill.

Sugar-cane mill rollers are ordinarily grooved with V-shaped circumferential grooves, 2½ to 8 to the inch and having an angle of 60 degrees or over. This is done to increase the effective surface of the rolls. The grooves in the feed and discharge rollers usually mesh with those in the top roller of three roller mills. The gripping of the cane or bagasse, however, depends largely upon the roughness of the surface texture of the metal in the roll.

My invention contemplates a shallow and narrow groove cut at the bottom of the ordinary V-shaped grooves. It can therefore be easily applied to existing rolls, and thereby greatly increases their effectiveness and the efficiency of the mill. With rollers thus grooved, when no scrapers are used, these grooves are soon filled with trash or bagasse, which packs and becomes tightly wedged in these grooves, and gives the rolls a better grip on the cane or bagasse fed to the mill so that they take the feed perfectly, and are therefore not dependent upon the roughness of the surface texture in order to take the feed. A scraper may be employed made to fit this grooving, which is particularly desirable in the case of the discharge roller, in order to permit of the escape of the juice expressed between the discharge roller and the top roller.

The invention consists in the novel shape and utility of the roll grooving as contemplated, as will hereinafter more fully appear, reference being had to the accompanying drawing, forming a part of this specification, which represents in section a portion of a sugar-cane mill roll grooved in accordance with my invention.

It will be noted that the outer portion 2 of the ordinary V-shaped grooving is retained, that shown being 60 degrees, while narrow and shallow grooves 3, preferably having parallel side walls, are cut in the crotches or bottom of the said ordinary grooves. For example, in a 32″ diam. roll grooved with 2½ grooves per inch having a 60 degree angle, a groove cut about ⅛″ wide by about ¼″ deep at the bottom of each of the V grooves gives good results, although I do not limit myself to these sizes. In the case of finer grooving, the narrow shallow grooves may be cut at the bottom of every alternate or third V groove as preferred. The bottom of the narrow and shallow grooves may be either flat or curved as shown.

Rollers provided with grooving as described soon have these grooves wedged with bagasse, unless a scraper is used, which enables them to obtain a better grip on the cane or bagasse passing through the mill. Their effectiveness is thereby greatly increased, a greater quantity of cane can be crushed by the mill, and the efficiency of the mill is increased.

I claim:

1. A sugar-cane mill roller provided with V-shaped grooves, and narrow and shallow grooves formed in the crotches of said V-shaped grooves.

2. A sugar-cane mill roller provided with V-shaped grooves, and narrow and shallow grooves in the crotches or bottoms of said

V-shaped grooves, the bottoms of said last-named grooves being curved, substantially as described.

3. A sugar-cane mill roller provided with a plurality of narrow circumferential grooves having substantially parallel side walls, the sides of said grooves near the outer surface of the roller being flared to form an angle of approximately sixty degrees.

4. A sugar-cane mill roller provided with a plurality of circumferential V-shaped grooves and other grooves formed in the crotches or bottoms of said V-shaped grooves.

In testimony whereof I affix my signature, in presence of two witnesses.

JAMES OGG.

Witnesses:
S. T. CARR,
P. H. BURNETTE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."